

CLAIMS

What is claimed is:

1. A method of billing for mobile application services comprising:
receiving a request for a mobile application operation;
determining if the application operation is billable;
identifying a subscriber account to be billed, if the operation is billable;
notifying an external billing module to start a billing event;
performing the requested mobile application operation; and
notifying the external billing module to end billing event.
2. The method of claim 1 further comprising:
receiving authorization from the external billing module to execute the billable operation.
3. The method of claim 1 further comprising:
receiving a billing rate from the external billing module.
4. The method of claim 1 further comprising:
receiving advice of charge information from the external billing module.
5. The method of claim 1, wherein the subscriber account is a prepaid account,
the method further comprising:
the billing module reserving an amount from the subscriber account for the operation;
and
the billing module debiting the reserve amount from the subscriber account upon
completions of the mobile application operation.

6. The method of claim 1, wherein the subscriber account is a postpaid account, the method further comprising:

the billing module reserving an amount from the subscriber account for the operation; and

the billing module debiting the reserve amount from the subscriber account upon completions of the mobile application operation.

7. The method of claim 1, wherein the subscriber account is a prepaid account, the method further comprising:

the billing module determining if the subscriber's prepaid account has sufficient funds to cover a billing rate for the mobile application operation.

8. The method of claim 1, wherein the subscriber account is a postpaid account, the method further comprising:

the billing module determining if the subscriber's postpaid account has sufficient funds to cover a billing rate for the mobile application operation.

9. The method of claim 1, wherein the subscriber account is a prepaid account, the method further comprising:

the billing module logging a completed mobile application operation in a charge detail record; and

later processing the charge detail record to bill the subscriber account for the operation.

10. The method of claim 1, wherein the subscriber account is a postpaid account, the method further comprising:

the billing module logging a completed mobile application operation in a charge detail record; and

later processing the charge detail record to bill the subscriber account for the operation.

11. The method of claim 1, wherein the subscriber account is a prepaid account, the method further comprising:

- the billing module authorizing the mobile application operation;
- the billing module receiving a message that the mobile application operation was not completed;
- the billing module logging information about the mobile application operation, including error status, in a charge detail record; and
- the billing module processing the charge detail record offline to credit the subscriber account for the mobile application operation.

12. The method of claim 1, wherein the subscriber account is a postpaid account, the method further comprising:

- the billing module authorizing the mobile application operation;
- the billing module receiving a message that the mobile application operation was not completed;
- the billing module logging information about the mobile application operation, including error status, in a charge detail record; and
- the billing module processing the charge detail record offline to credit the subscriber account for the mobile application operation.

13. The method of claim 1 wherein the billable operations are selected from the operations in group consisting of:

- message submission;
- message forward;
- message notification;
- message retrieval;
- message delivery;
- delivery report submission; and
- delivery report notification.

14. A billing extension module coupled to a carrier's application to support billing operations, the billing extension module operable to perform billing services at the beginning of a billing event or at the end of a billing event or both, wherein the billing services include the services selected from the group consisting of:

- logging charge detail records;
- determining the cost of a billable operation;
- checking for funds in an account;
- reserving funds for an account;
- debiting funds from an account; and
- crediting funds to an account.

15. A system for providing mobile messaging billing services comprising:
a mobile application server;
a billing extension module application coupled to the mobile application server;
one or more remote billing servers; and
a real-time client billing library operable to provide communications between the billing extension module and the remote billing server.

16. The system of claim 15 further comprising:
a charging data record store.

17. The system of claim 15 further comprising:
a remote rating engine.

18. The system of claim 15 further comprising:
a local rating engine.

19. A method for providing billing services to mobile applications that to not have embedded billing logic, the method comprising:

- receiving a user request for mobile application service;
- notifying a separate billing application of a start of the requested service;
- notifying the separate billing application of an end of the requested service.

20. The method of claim 19 further comprising:
receiving, from the separate billing application, advice of charge information for the requested service.

21. The method of claim 20 further comprising:
providing advice of charge information to a user for approval to proceed with requested service.

22. The method of claim 19 further comprising:
receiving, from the separate billing application, authorization to perform the requested service.

23. The method of claim 19 further comprising:
creating a charge record for the requested service at the separate billing application;
and
processing the charge record to bill a user's account for the requested service.

24. The method of claim 19 further comprising:
rating the requested service at the separate billing application.

25. A method for providing billing services for mobile applications comprising:
creating billing records from billing-related information that is collected from mobile messages;

sending the billing records to a billing application that is coupled to the messaging application;

converting billing record data into data structures;

converting the data structures into requests for a billing server;

sending the requests to the billing server; and

receiving responses to the requests from the billing server.

26. The method of claim 25 wherein the creating step is performed by a mobile messaging relay.

27. The method of claim 25 wherein the requests for the billing server are SOAP-formatted requests that can be sent over HTTP.

28. The method of claim 25 wherein the requests for the billing server are rate generation requests.

29. The method of claim 25 further comprising:
determining if the billing records correspond to billable operations.

30. The method of claim 29 wherein the billable operations are selected from the operations in group consisting of:

message submission;

message forward;

message notification;

message retrieval;

message delivery;

delivery report submission; and

delivery report notification.

31. The method of claim 25 further comprising:
calculating an amount to be reserved from a prepaid account until an operation is successfully performed.

32. The method of claim 31 further comprising:
logging events to a charge data record when the billing server is unavailable;
performing a billable operation for a subscriber; and
billing the subscriber's a prepaid account when the billing server becomes available.